

## REMARKS

Claims 1-10 and 15-26 are pending in the application. With this amendment claims 27-29 have been added in order to further define the invention.

Support for the subject matter of the new claims is set forth in the specification on page 5, last full paragraph wherein it is stated that the curved edge section has an essentially vertical section at one end in the area of the common wall section and merges into an essentially horizontal lid bottom section at the other end. The feature of the curved edge section merging into the essentially horizontal lid bottom section is already present in independent claims 1, 25 and 26. Accordingly, no new matter has been added.

Claims 1-8, 16-18, 25 and 26 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Vannoy (U.S. Patent No. 5,830,348) in view of Verlinden (U.S. Patent No. 3,958,904). Claims 9, 10, 19 and 21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Vannoy '348 and Verlinden '904 and further in view of Stifano, U.S. Patent No. 4,109,820. Claim 15 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Vannoy '348 and Verlinden '904 and Gizowski et al. (U.S. Publication No. 2001/0000894 A1).

On page 2 continuing on page 3 of the May 14, 2009 Office Action under Section 1 the Examiner states that Vannoy does not teach i) the lid bottom merging with the lateral wall in the direction of the peripheral wall along an inward curved section, ii) tapering inwards in a forming region, or iii) that glue or a weld connects at least one section of the common wall section to the peripheral wall (numerations added).

Further in the "Response to Arguments" section beginning on page 9 of the Office Action, the Examiner states that the Applicant argues that Vannoy does not teach a common wall section that is parallel to the peripheral wall section or glue or a weld connecting at least one section of common wall section to the peripheral wall. The Examiner further states that Vannoy is not relied upon to teach these features as they are taught by Verlinden as detailed in the rejection above.

It is respectfully submitted that the Examiner has not presented a prima facie case of obvious. It is respectfully submitted that the description of the features lacking

in Vannoy is not complete. Vannoy also does not disclose a common wall section that is tapering inwards in the forming region as claimed in independent claims 1, 25 and 26. The lid bottom and lateral wall are connected by a relatively short curved section as claimed. According to Vannoy there is no forming region and no common wall section.

As there is no common wall section in Vannoy, it is unclear how one of ordinary skill in the art would be led to combine the scope and content of Vannoy with that of the Verlinden reference. The scope and content of Verlinden reference lacks the claimed essentially horizontal lid bottom middle section. It is respectfully submitted that independent claims 1, 25 and 26 claim a combination of features that amount to more than a predictable result in view of the combination of Vannoy and Verlinden. There is no scope and content within Vannoy or Verlinden that would teach one of ordinary skill in the art to arrive at the claimed invention, absent impermissible hindsight picking and choosing of the isolated features from the cited references. Applicants' claimed filter cartridge is specifically designed to withstand the force and pressure conditions a filter cartridge can be subjected to. The invention is more than a predictable result of the combination of Vannoy and Verlinden and the specifically claimed features act together to reduce the pressures on the lid, such as described on page 4 of the specification.

The invention is based on the knowledge that the forces  $F_D$  acting on the lid bottom due to the internal pressure result in a tensile force  $F_Z$  acting in the area of the common wall section, which has, due to the curvature of the edge section, a major force component parallel to the lateral wall and, at the best only a small, inward oriented, force component perpendicular to the lateral wall. This means that the area of the lateral wall fastened with the peripheral wall is also exposed to tension only along the lateral wall and the peripheral wall, as a result of which the danger of a shear fracture is minimized at the lower end of the fastening area.

Another advantage of the curved edge section is that the forces acting on the lid due to the internal pressure cannot only be weakened in the edge area, but can also be used for generating a sealing force. Due to the fact that the lateral wall and the curved edge section of the lid bottom form a common wall section in the interior of the filter cartridge, the force component  $F$ , acting due to the internal pressure on the common wall section, is radially outward oriented so that the common wall section is pressed

against the peripheral wall of the cartridge container. Thereby, it is of advantage if the common wall section forms the lower wall section of the lateral wall.

On the whole, the load is clearly reduced in the critical area of the peripheral wall at the lower end of the fastening area, so that the leakages are effectively prevented in that area and the service life of the filter cartridge is limited mainly due to the consumption of the filter material.

Accordingly, it is respectfully submitted that independent claims 1, 25 and 26 cannot be rendered obvious by the Vannoy and Verlinden references.

Regarding the remaining dependent claims, it is respectfully submitted that the Examiner has impermissibly pieced together isolated features from the prior art references using hindsight to arrive at Applicants' claimed invention.

None of the cited references teach a back-up ring. Stifano teaches a single lid and not a back-up ring arranged on a lid as claimed. Stifano teaches a lid or closure insert 10 comprising an inverted annular flange 13 and a plurality of support members 14 and all but the central portion of the phase, see column 2, line 50 through column 3, line 2. It is further defined in Col. 3, lines 29-33, the plurality of support members 14 are preferably integrally formed with the face and flange.

Moreover, Applicants' claimed back-up ring, which is separate and distinct from the claimed lid, is claimed to have an inner wall comprising a ring opening and an outer lateral wall in contact with the lid lateral wall. None of the cited references teach any such structure. Moreover, dependent claim 9 claims that the plurality of radial reinforcing ribs are connected to and extend between the back-up ring inner wall and the back-up ring outer lateral wall. As illustrated in FIG. 4, especially FIG. 5, the Stifano reinforcing ribs do not connect to and extend between both a back-up inner wall and a back-up ring outer wall, but instead extend from the Stifano lid outer wall 22 and end on the underside 21 of the lid, and do not all contact the ring opening 25. One of ordinary skill in the art would not arrive at the claimed invention even if in possession of the cited references.

Regarding claim 10, the Examiner points to Fig. 6 of Stifano regarding Applicants' claimed feature. However, Fig. 6 relates to a container closed by a closure assembly. The Stifano lid has no back-up ring as illustrated therein.

Regarding claim 21, although Stifano includes a connecting tube, there is no separate and distinct back-up ring having an opening through which the connecting tube is accessible, which is specifically claimed in claim 21.

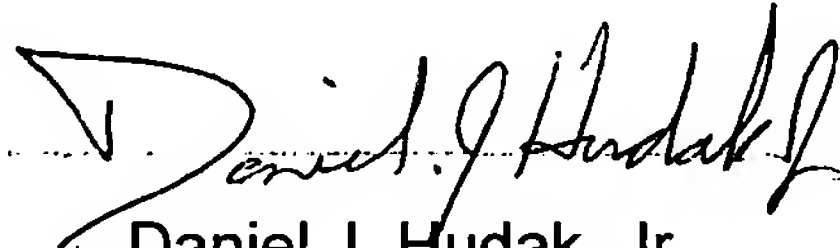
New claims 27-29 have been added to the application based upon the subject matter set forth on page 5 of the specification. In the "Response to Arguments" section, the Examiner states that Vannoy teaches the curved edge section merging into an essentially horizontal lid bottom middle section in Figure 1 where element 40 extends from the middle horizontal lid bottom section. This is respectfully incorrect. Applicants' claim a curved edge section merging into an essentially horizontal lid bottom middle section. The features in Vannoy pointed out by the Examiner are not a curved edge section. Applicants' curved edge section is defined within independent claims 1, 25 and 26 as also merging with the lateral wall in the direction of the peripheral wall. This combination of features cannot be taught or suggested by Vannoy in Figure 1, where element 40 extends from the middle horizontal lid bottom section as indicated by the Examiner.

Moreover, in order to further distinguish the claims of the invention from the cited references, claims 27-29 further define that the curved edge section has an essentially vertical section at one end in an area of the common wall section. First, Vannoy lacks the common wall as claimed, as described hereinabove, and therefore also lacks the essentially vertical section. The essentially vertical section of the common wall is part of the curved edge section as well as part of the lateral wall. Accordingly, the cited references cannot render obvious the combination of features cited within claims 27-29 and their independent claims.

Should the Examiner have any questions or concerns regarding the amendment,  
a telephone call to the undersigned is greatly appreciated.

Respectfully submitted,

HUDAK, SHUNK & FARINE CO. LPA

A handwritten signature in black ink, appearing to read "Daniel J. Hudak, Jr.", written over a horizontal dotted line.

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